

That which is claimed is:

1. A compound having the structure:

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X-L-Z

wherein:

X = a non-steroidal anti-inflammatory drug (NSAID),

L = an optional linker/spacer,

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Z = a sulfur-containing functional group containing an optionally substituted hydrocarbyl moiety.

2. A compound according to claim 1 wherein said NSAID is

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acetaminophen, aspirin, ibuprofen, choline magnesium salicylate, choline salicylate, diclofenac, diflunisal, etodolac, fenprofen calcium, flurobiprofen, indomethacin, ketoprofen, carprofen, indoprofen, ketorolac tromethamine, magnesium salicylate, meclofenamate sodium, mefenamic acid, oxaprozin, piroxicam, sodium salicylate, sulindac, tolmetin, meloxicam, nabumetone, naproxen, lornoxicam, nimesulide, indoprofen, remifenzone, salsalate, tiaprofenic acid, or flosulide.

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3. A compound according to claim 2 wherein said NSAID is naproxen, aspirin, ibuprofen, flurbiprofen, indomethacin, ketoprofen, or carprofen.

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4. A compound according to claim 1 wherein the sulfur-containing functional group is sulfonate, reverse sulfonate, sulfonamide, reverse sulfonamide, sulfone, sulfinate, or reverse sulfinate.

5. A compound according to claim 4 wherein the sulfur-containing functional group is sulfonate or reverse sulfonate.

Sub a3 cont'd
6. A compound according to claim 5 wherein the sulfur-containing functional group is an optionally substituted aromatic sulfonate.

5 7. A compound according to claim 6 wherein said aromatic sulfonate is tosylate or brosylate.

8. A compound according to claim 5 wherein the sulfur-containing functional group is an optionally substituted C₁ to C₁₀ alkyl sulfonate.

9. A compound according to claim 8 wherein the alkyl sulfonate is mesylate or triflate.

15 10. A compound according to claim 4 wherein the sulfur-containing functional group is a sulfone.

Sub a5
11. A compound according to claim 10 wherein the sulfur-containing functional group is an optionally substituted C₁ to C₁₀ alkyl sulfone.

20 12. A compound according to claim 11 wherein said sulfone is methyl sulfone, ethyl sulfone.

Sub a6
13. A compound according to claim 10 wherein the sulfur-containing functional group is an optionally substituted aromatic sulfone.

25 14. A compound according to claim 13 wherein the sulfur-containing functional group is a *p*-substituted aromatic sulfone.

Sub a7
30 15. A compound according to claim 4 wherein the sulfur-containing functional group is a sulfonamide or reverse sulfonamide.

Sub 7
Contd

16. A compound according to claim 15 wherein the sulfur-containing functional group is an optionally substituted C_1 to C_{10} alkyl sulfonamide.

17. A compound according to claim 16 wherein the sulfur-containing functional group is methyl sulfonamide.

Sub 8

18. A compound according to claim 15 wherein the sulfur-containing functional group is an optionally substituted aromatic sulfonamide.

10 19. A compound according to claim 18 wherein the sulfur-containing functional group is toluene sulfonamide.

15 20. A compound according to claim 4 wherein the sulfur-containing functional group is a sulfinate or reverse sulfinate.

21. A compound according to claim 1 wherein L, when present, has the structure:



wherein:

20 R is optional, and when present is alkylene, substituted alkylene, cycloalkylene, substituted cycloalkylene, heterocyclic, substituted heterocyclic, oxyalkylene, substituted oxyalkylene, alkenylene, substituted alkenylene, arylene, substituted arylene, alkarylene, substituted alkarylene, aralkylene or substituted aralkylene, and

25 W is ester, reverse ester, thioester, reverse thioester, amide, reverse amide, phosphate, phosphonate, imine or enamine

22. A formulation comprising a compound according to claim 1 in a pharmaceutically acceptable carrier therefor.

23. A formulation according to claim 22 wherein said pharmaceutically acceptable carrier is a solid, solution, emulsion, dispersion, micelle or liposome.

5 24. A formulation according to claim 22 wherein said pharmaceutically acceptable carrier further comprises an enteric coating.

10 25. In a method for the administration of a non-steroidal anti-inflammatory drug (NSAID) to a subject for the treatment of a pathological condition, the improvement comprising directly or indirectly covalently attaching said NSAID to a sulfur-containing functional group containing an optionally substituted hydrocarbyl moiety prior to administration thereof to said subject.

26. The method of claim 25 wherein said pathological condition is septic
 15 shock, hemorrhagic shock, anaphylactic shock, toxic shock syndrome, ischemia, cerebral ischemia, administration of cytokines, overexpression of cytokines, ulcers, inflammatory bowel disease, diabetes, arthritis, asthma, Alzheimer's disease, Parkinson's disease, multiple sclerosis, cirrhosis, allograft rejection, encephalomyelitis, meningitis, pancreatitis, peritonitis, vasculitis, lymphocytic choriomeningitis, glomerulonephritis,
 20 uveitis, ileitis, inflammation, burn, infection, hemodialysis, chronic fatigue syndrome, stroke, cancers, cardiopulmonary bypass, ischemic/reperfusion injury, gastritis, adult respiratory distress syndrome, cachexia, myocarditis, autoimmune disorders, eczema, psoriasis, heart failure, heart disease, atherosclerosis, dermatitis, urticaria, systemic lupus erythematosus, AIDS, AIDS dementia, chronic neurodegenerative disease,
 25 chronic pain, priapism, cystic fibrosis, amyotrophic lateral sclerosis, schizophrenia, depression, premenstrual syndrome, anxiety, addiction, migraine, Huntington's disease, epilepsy, neurodegenerative disorders, gastrointestinal motility disorders, obesity, hyperphagia, solid tumors, malaria, hematologic cancers, myelofibrosis, lung injury, graft-versus-host disease, head injury, CNS trauma, hepatitis, renal failure, liver disease,
 30 drug-induced lung injury, myasthenia gravis (MG), ophthalmic diseases, post-angioplasty, restenosis, angina, or coronary artery disease.

27. In the treatment of a subject suffering from a pathological condition by administration thereto of a non-steroidal anti-inflammatory drug (NSAID), the improvement comprising covalently attaching said NSAID to a sulfur-containing functional group containing an optionally substituted hydrocarbyl moiety prior to administration thereof to said subject.

28. A method for the treatment of a subject afflicted with a pathological condition, said method comprising administering to said subject an effective amount of a non-steroidal anti-inflammatory drug (NSAID),

wherein said NSAID is effective for treatment of said condition, and wherein said NSAID has been modified by the direct or indirect covalent attachment thereto of a sulfur-containing functional group containing an optionally substituted hydrocarbyl moiety.

29. A method for the preparation of a protected form of a non-steroidal anti-inflammatory drug (NSAID), said method comprising directly or indirectly covalently attaching a sulfur-containing functional group containing an optionally substituted hydrocarbyl moiety to said NSAID.

30. A method according to claim 29 wherein said NSAID is acetaminophen, aspirin, ibuprofen, choline magnesium salicylate, choline salicylate, diclofenac, diflunisal, etodolac, fenpropfen calcium, flurbiprofen, indomethacin, ketoprofen, carprofen, indoprofen, ketorolac tromethamine, magnesium salicylate, meclofenamate sodium, mefenamic acid, oxaprozin, piroxicam, sodium salicylate, sulindac, tolmetin, meloxicam, nabumetone, naproxen, lornoxicam, nimesulide, indoprofen, remifenzone, salsalate, tiaprofenic acid, or flosulide.

31. A method for reducing the side effects induced by administration of a non-steroidal anti-inflammatory drug (NSAID) to a subject, said method comprising directly or indirectly covalently attaching a sulfur-containing functional group containing an optionally substituted hydrocarbyl moiety to said NSAID prior to administration to said subject.

32. A method for enhancing the effectiveness of a non-steroidal anti-inflammatory drug (NSAID), said method comprising directly or indirectly covalently attaching a sulfur-containing functional group containing an optionally substituted hydrocarbyl moiety to said NSAID.

33. A method for the prevention or treatment of an inflammatory or infectious disease in a subject in need thereof, said method comprising administering to said subject an amount of the compound of claim 1 effective to alleviate said condition.

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